

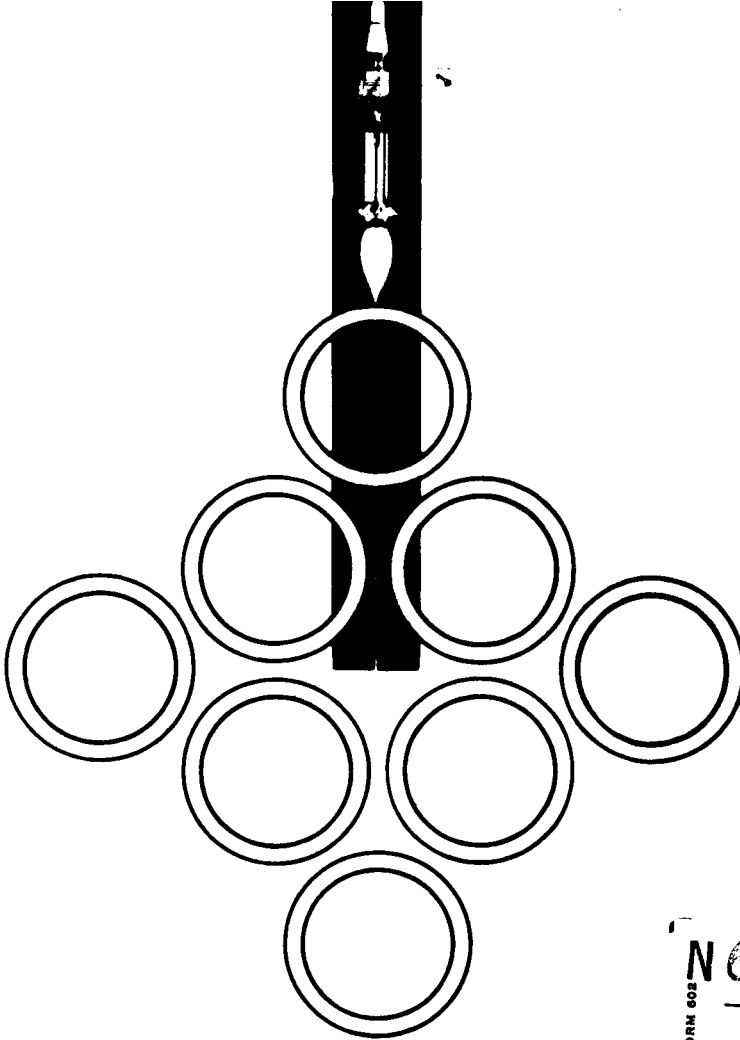
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ENGINEERING DEPARTMENT  
TECHNICAL REPORT

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March 13, 1967

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TEST REPORT  
FOR

RELIEF VALVE, 6 - INCH

Ladewig Valve Company Part Number 660-F

NASA Drawing Number 75M12930 LRV-6

SPACE DIVISION



CHRYSLER  
CORPORATION

TEST REPORT

FOR

RELIEF VALVE, 6-INCH

Ladewig Valve Company Part Number 660-F

NASA Drawing Number 75M12930 LRV-6

ABSTRACT

This report presents the results of tests performed on one specimen of the 6-Inch Relief Valve 75M12930 LRV-6. The specimen was subjected to the following tests:

- |                         |                      |
|-------------------------|----------------------|
| 1. Receiving Inspection | 4. Temperature Shock |
| 2. Functional           | 5. Cycle             |
| 3. Flow                 |                      |

Overall specimen performance was satisfactory. However, minute scim leakage past the valve poppet was noted during the initial functional, flow, and temperature shock tests. It is believed that this leakage was caused by machining tolerances on the sealing surfaces. This problem alleviated itself after a number of operational cycles and no leakage was detected during the cycle test.

TEST REPORT

FOR

RELIEF VALVE, 6-INCH

Ladewig Valve Company Part Number 660-F

NASA Drawing Number 75ML2930 LRV-6

March 13, 1967

CHRYSLER CORPORATION SPACE DIVISION-NEW ORLEANS, LOUISIANA

## FOREWORD

The tests reported herein were conducted for the John F. Kennedy Space Center by Chrysler Corporation Space Division (CCSD), New Orleans, Louisiana. This document was prepared by CCSD under contract NAS8-4016, Part VII, CWO 271620.



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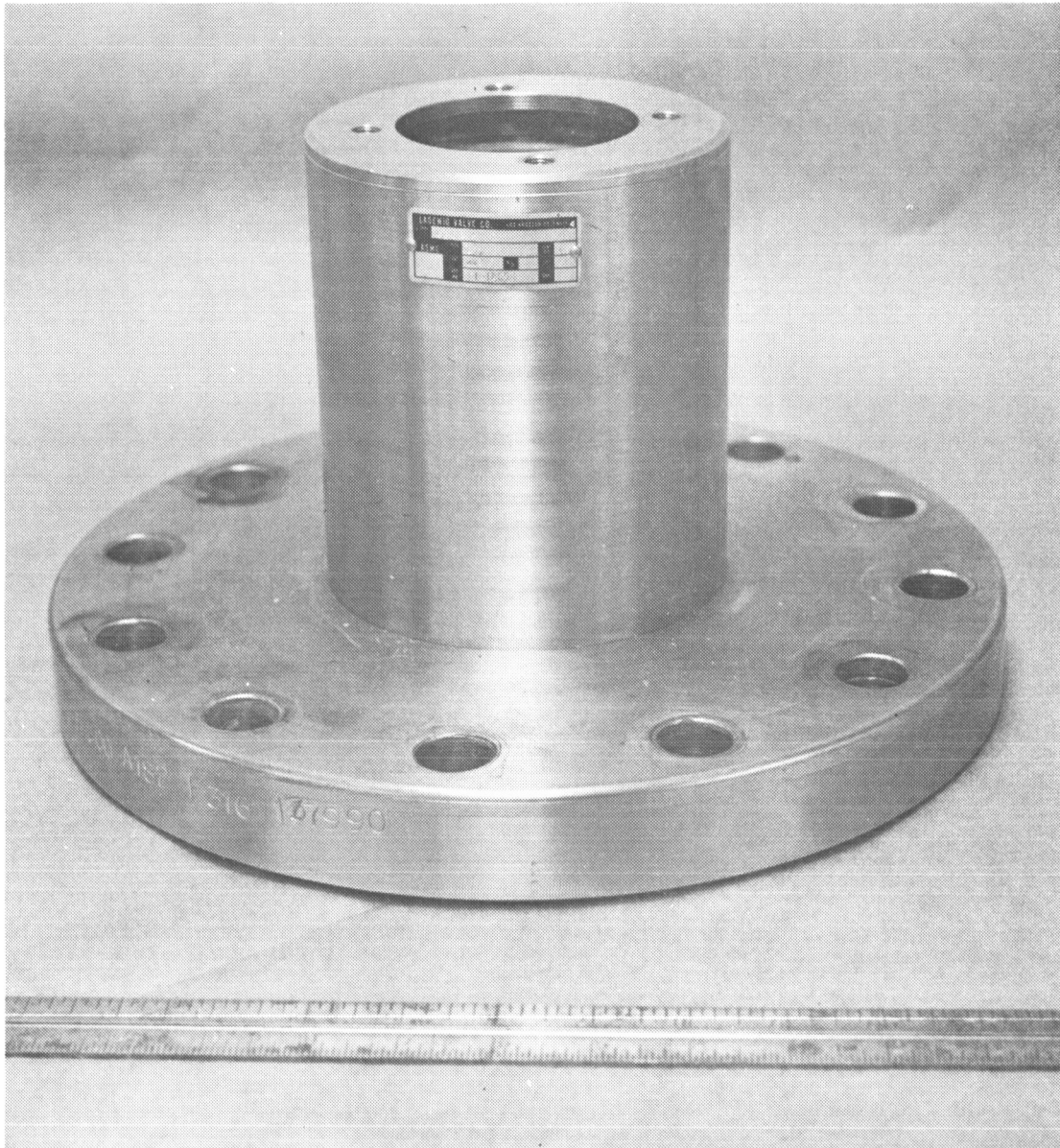
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Relief Valve, 6-Inch, 75M12930 LRV-6

CHECK SHEET

FOR

6-INCH RELIEF VALVE

MANUFACTURER: Ladewig Valve Company

MANUFACTURER'S PART NUMBER: 660-F

NASA PART NUMBER: 75M12930 LRV-6

TESTING AGENCY: Chrysler Corporation Space Division, New Orleans, Louisiana

AUTHORIZING AGENCY: NASA KSC

I. FUNCTIONAL REQUIREMENTS

- |                        |                                      |
|------------------------|--------------------------------------|
| A. OPERATING MEDIUM    | Gaseous nitrogen                     |
| B. CRACKING PRESSURE:  | 2.3 psig                             |
| C. RESEATING PRESSURE: | 1.9 psig minimum                     |
| D. LEAKAGE:            | Bubble tight below cracking pressure |

II. CONSTRUCTION

- |                   |                              |
|-------------------|------------------------------|
| A. BODY MATERIAL: | 316 stainless steel          |
| B. SEAL MATERIAL: | Teflon & 316 stainless steel |
| C. INLET PORT:    | 6-inch                       |

III. ENVIRONMENTAL CHARACTERISTICS

- |                           |                |
|---------------------------|----------------|
| A. OPERATING TEMPERATURE: | -150 to +150°F |
|---------------------------|----------------|

IV. LOCATION AND USE:

Used in the LOX system ground support equipment on Launch Complex 34 to protect the main LOX storage tank annular space from overpressurization.

# TEST SUMMARY

## RELIEF VALVE, 6-INCH

75M12930-LRV-6

Environment	Units	Operational Boundary	Test Objective	Test Results	Remarks
Receiving Inspection	1	NASA Drawing 75M12930 LRV-6 Vendor Drawing N-2126	Visual & dimensional inspection for conformance to applicable drawings & specifications	Satisfactory	Specimen conformed to applicable specifications & drawings
Functional	1	Cracking pressure-2.3 psig Reseat pressure - greater than 1.9 psig	Check cracking & reseating pressures	Marginal	Cracking pressure was 2.6 psig. Initial reseat pressure was 2.27 psig however slight leakage continued down to 0.45 psig.
Flow	1	Valve inlet pressure 110% of cracking pressure	Determine flow thru valve	Satisfactory	Flow through valve at inlet pressure of 2.86 psig was 771 scfm
Temperature Shock	1	+150°F GN <sub>2</sub> -150°F GN <sub>2</sub>	Check cracking & reseat pressures at temperature extremes	Marginal	Slight leakage continued below reseat pressure
Cycle	1	1000 pressure cycles from zero to 5.0 psig	Check cracking & reseat pressures at 100, 500, and 1000 cycles	Satisfactory	No leakage below reseat pressure

## SECTION I

### INTRODUCTION

#### 1.1 SCOPE

This report presents the results of tests performed to determine if relief valve 75M12930 LRV-6 meets the operational and environmental requirements for John F. Kennedy Space Center Launch Complexes 34 and 37B. A summary of the test results is presented on page vii.

#### 1.2 ITEM DESCRIPTION

1.2.1 Only one specimen of relief valve 75M12930 LRV-6, (S/N 114650) was tested.

1.2.2 Relief valve 75M12930 LRV-6 has a 6-inch nominal size inlet and a design cracking pressure of 2.3 psig. The reseating pressure is 1.9 psig minimum.

#### 1.3 APPLICABLE DOCUMENTS

The following documents contain the test requirements for relief valve 75M12930 LRV-6.

- a. KSC-STD-164(D), Standard Environmental Test Methods for Ground Support Equipment Installations at Cape Kennedy.
- b. NASA Drawing, 75M12930 LRV-6
- c. Cleanliness Standard, A10M10671
- d. Test Plan CCSD-FO-1102-1F
- e. Test procedure.

SECTION II  
RECEIVING INSPECTION

2.1 TEST REQUIREMENTS

The specimens shall be visually and dimensionally inspected for conformance with NASA drawing 75M12930 IRV-6 and vendor drawing N-2126. Inspection shall not include disassembly of the specimens.

2.2 TEST PROCEDURE

Visual and dimensional inspections were performed to determine compliance with NASA drawing 75M12930 IRV-6 and vendor drawing N-2126 to the extent possible without disassembly of the test specimens. Inspections were also made for poor workmanship and manufacturing defects.

2.3 TEST RESULTS

The specimen complied with the physical and dimensional requirements of NASA and vendor drawings. No external evidence of poor workmanship or manufacturing defects was observed.

2.4 TEST DATA

Data presented in table 2-1 were recorded.

Table 2-1. Receiving Inspection Test Data

Measurement	Allowable Value (inches)	Actual Value (inches)
Overall Length	7.25 ( $\pm .125$ )	7.281
Orifice Diameter	3.0 ( $\pm .125$ )	3.00

SECTION III  
FUNCTIONAL TEST

3.1        TEST REQUIREMENTS

3.1.1        The inlet port of the specimen shall be subjected to an initial functional test of 10 cycles at GN<sub>2</sub> pressures from zero to 5 psig.

3.1.2        Cracking and reseating pressure shall be monitored.

3.1.3        Cracking pressure shall be approximately 2.3 psig and reseal pressure shall be greater than 1.9 psig.

3.2        TEST PROCEDURE

3.2.1        The test setup was assembled as shown in figures 3-1 and 3-2 using the equipment listed in table 3-1. All hand valves were closed.

3.2.2        Regulator 5 was adjusted for zero outlet pressure.

3.2.3        Hand valve 2 was opened. Pressure gage 4 indicated 3000 psig from source 1.

3.2.4        Regulator 5 was adjusted to provide 100 psig on gage 7.

3.2.5        Hand valve 8 was slowly adjusted to increase the specimen inlet pressure as indicated on gage 10.

3.2.6        Cracking pressure was observed on gage 10.

3.2.7        Hand valve 8 was fully opened allowing GN<sub>2</sub> to flow through the specimen.

3.2.8        Hand valve 8 was then closed allowing pressure to bleed off through the specimen until the poppet reseated.

3.2.9        The pressure at reseal, as indicated on gage 10, was recorded.

3.2.10       Steps 3.2.4 through 3.2.9 were repeated 10 times.

3.2.11       Hand valve 2 was closed and system pressure vented through regulator 5.

3.2.12       All data were recorded.

3.3        TEST RESULTS

3.3.1        The average cracking pressure after 10 cycles was 2.6 psig.



3.3.2

The specimen would initially reseal at 2.26 psig. However, leakage would continue down to 0.442 psig. The specification allows zero leakage below 1.90 psig. Leakage past the poppet could have been caused by improper finish of the seating surfaces.

3.4

TEST DATA

The initial functional test data are presented in table 3-2.

Table 3-1. Functional Test Equipment List

Item No.	Item	Manufacturer	Model/ Part No.	Serial No.	Remarks
1	GN <sub>2</sub> Source	CCSD	N/A	N/A	3000 psig
2	Hand Valve	Combination Pump Valve Company	380-4	N/A	$\frac{1}{2}$ inch
3	Filter	Bendix	1731261	N/A	2 micron
4	Pressure Gage	Ashcroft	1057-S	N/A	0 to 5000 psig +2% FS accuracy Calibration not required
5	Pressure Regulator	Tescom	26-1109 -16	N/A	6000 psig in/out
6	Filter	Bendix	1731260	N/A	2-micron
7	Pressure Gage	Heise	N/A	H41249	0 to 150 psig Calibration March 7, 1967
8	Hand Valve	Robbins Aviation	SSKG- 250-4T	N/A	$\frac{1}{4}$ inch
9	Hand Valve	Robbins Aviation	SSKG- 250-4T	N/A	$\frac{1}{4}$ inch
10	Pressure Gage	Wallace & Tiernan	NASA 019670	JJ11899	0 to 60 psig +0.5% accuracy Calibration March 20, 1967
11	Test Specimen	Ladewig Valve	660-F	114650	6" relief

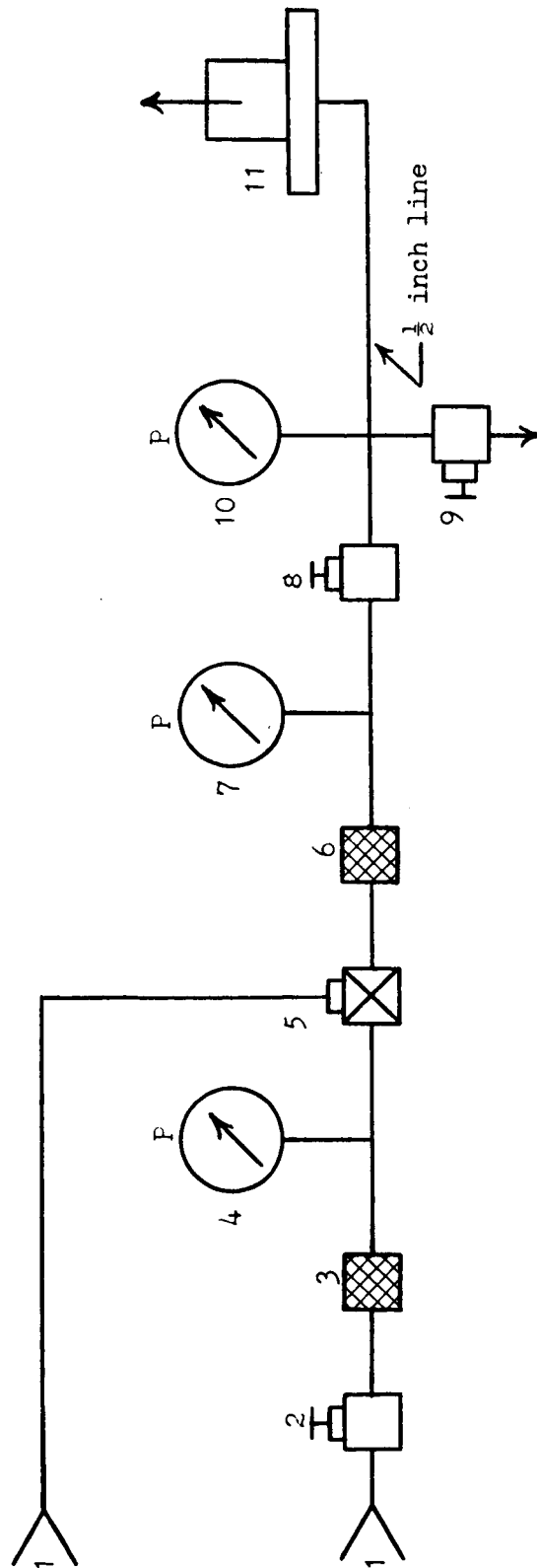
Table 3-2. Initial Functional Test Data

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75M12930 LRV-6

Date February 17, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.58	0.442	Poppet initially reseated at 2.26 psig however, slight leakage continued to 0.442 psig
2	2.60	0.442	
3	2.60	0.442	
4	2.60	0.442	
5	2.60	0.442	
6	2.60	0.442	
7	2.60	0.442	
8	2.60	0.442	
9	2.60	0.442	
10	2.60	0.442	



Note: All lines  $\frac{1}{2}$  inch unless otherwise indicated.  
Refer to table 3-1 for item identification.

Figure 3-1. Functional Test Schematic

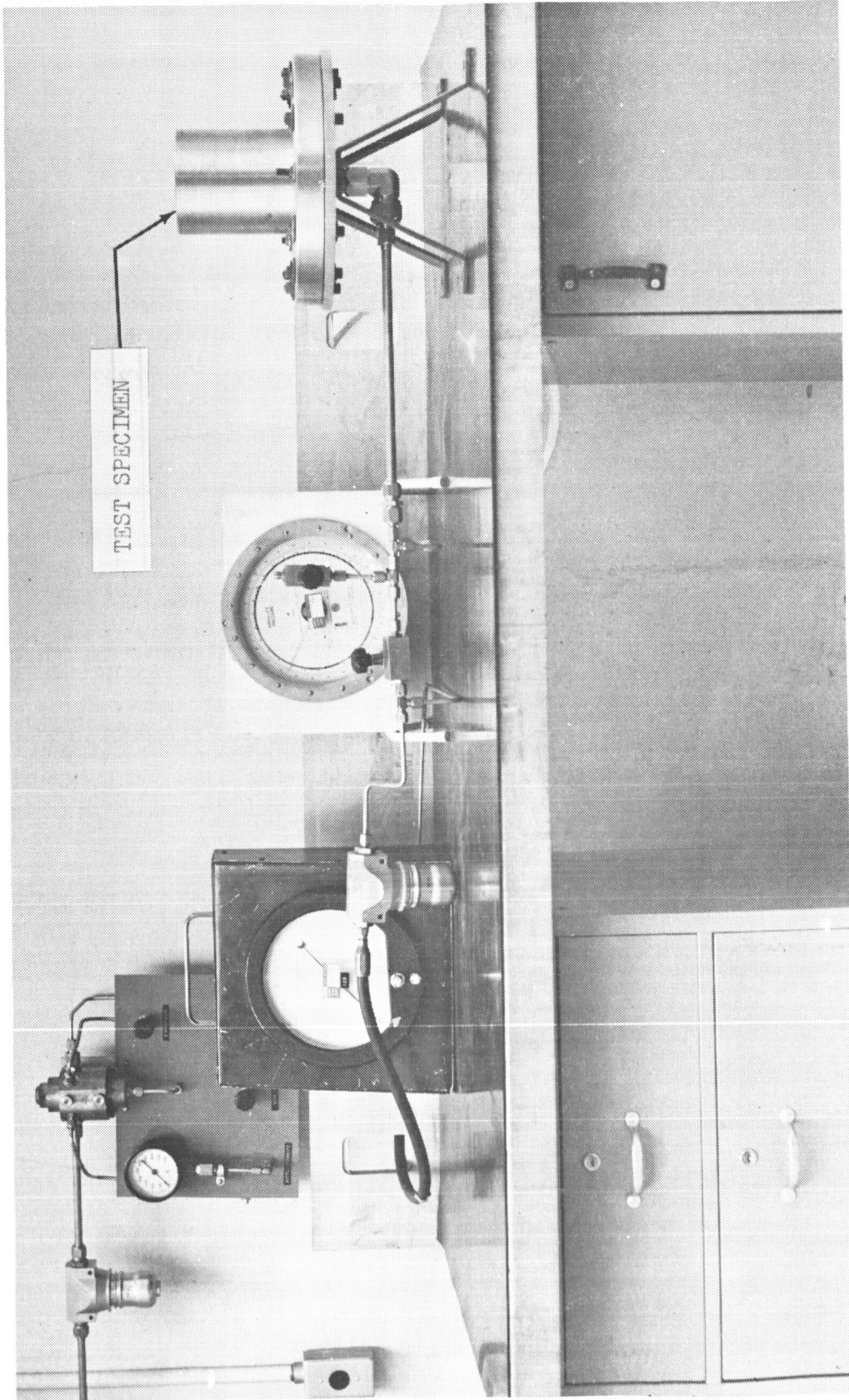


Figure 3-2. Functional Test Setup

## SECTION IV

### FLOW TEST

#### 4.1 TEST REQUIREMENTS

- 4.1.1 The flow rate shall be measured with a specimen inlet pressure of 110% of cracking pressure.
- 4.1.2  $\text{GN}_2$  shall be the test medium.

#### 4.2 TEST PROCEDURE

- 4.2.1 A functional test was performed since 72 hours had elapsed since the previous test.
- 4.2.2 The specimen was installed in the test setup shown in figures 4-1 and 4-2 using the equipment listed in table 4-1.
- 4.2.3 Regulator 5 was adjusted for zero outlet pressure.
- 4.2.4 Hand valve 2 was opened and the source pressure monitored on gage 3.
- 4.2.5 Regulator 5 was adjusted to provide an ullage tank pressure of 110% of the cracking pressure as determined in 4.2.1. Tank pressure was monitored on gage 9.
- 4.2.6 The pressure and temperature of the medium at flowmeter 8 as indicated by gage 7 and thermocouple 6 were recorded. The flow rate was calculated.

#### 4.3 TEST RESULTS

- 4.3.1 No significant change in the cracking pressure occurred during the functional test. Slight leakage continued to be present after the initial reseal; however, the leakage rate did not increase over the initial functional test values.
- 4.3.2 The flow rate through the specimen at an inlet pressure of 2.82 psig (110% of cracking pressure) was calculated to be 771 scfm.

#### 4.4 TEST DATA

- 4.4.1 Functional test data are presented in table 4-2.

4.4.2

The specimen flow rate was calculated using the following equation:

$$Q = \frac{KP}{\sqrt{T}}$$

Where: Q = Flow rate in scfm  
K = Flow coefficient from calibration curve  
P = Upstream static pressure (psia)  
T = Upstream temperature in °R

Specimen flow rate at an inlet pressure of 2.82 psig (110% of 2.56 psig cracking pressure) was calculated to be:

$$Q = \frac{(61.65)(277 \text{ psia})}{\sqrt{488^\circ\text{R}}} = 771 \text{ scfm}$$

Table 4-1. Flow Test Equipment List

Item No.	Item	Manufacturer	Model/ Part No.	Serial No.	Remarks
1	GN <sub>2</sub> Supply	CCSD	N/A	N/A	3500-psig
2	Hand Valve	Calmec	277-G	175-65	2-inch
3	Pressure Gage	Weksler	N/A	N/A	0 to 5000-psig Calibration not required
4	Pressure Regulator	Tescom	26-1002 -21	3485	6000-psig in/out
5	Pressure Regulator	Grove	WH-408 -NA	RA-5922	3000-psig out
6	Thermocouple	N/A	N/A	N/A	Copper - Constantan
7	Pressure Gage	Heise	H35960	NASA 015536	0 to 5000-psig +.5% FS accuracy Calibration 1/18/67
8	Flow Nozzle	Flow-Dyne Engineering	XN320430 SGP	2323	.4295 in. throat diameter
9	Pressure Gage	Wallace & Tiernan	F-145	HH-10977	0 to 30-in. Hg Calibration 2/1/67
10	Ullage Tank	CCSD	N/A	N/A	500-cu. ft.
11	Test Specimen	Ladewig Valve	660-F	114650	6" relief



Table 4-2. Functional Test Data Prior To Flow Test

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75M12930 LRV-6

Date February 22, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.6	2.26	Minute scim leakage continued down to 0.50 psig
2	2.58	2.26	
3	2.58	2.24	
4	2.54	2.28	
5	2.58	2.26	
6	2.56	2.22	
7	2.55	2.26	
8	2.56	2.26	
9	2.58	2.26	
10	2.55	2.26	

Note: Refer to table 4-1 for item identification.

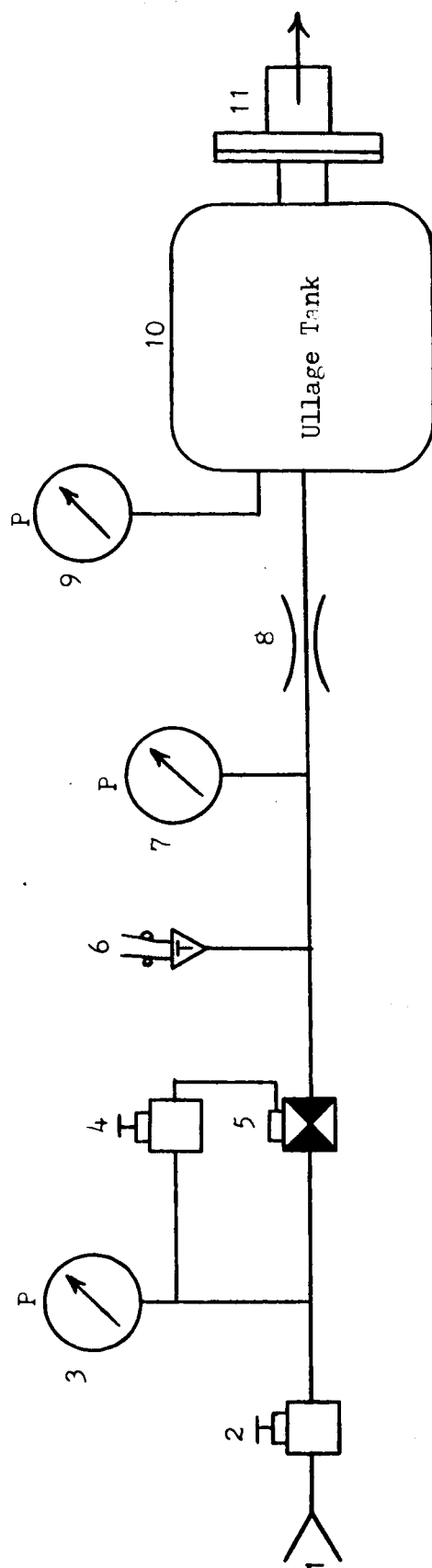


Figure 4-1. Flow Test Schematic

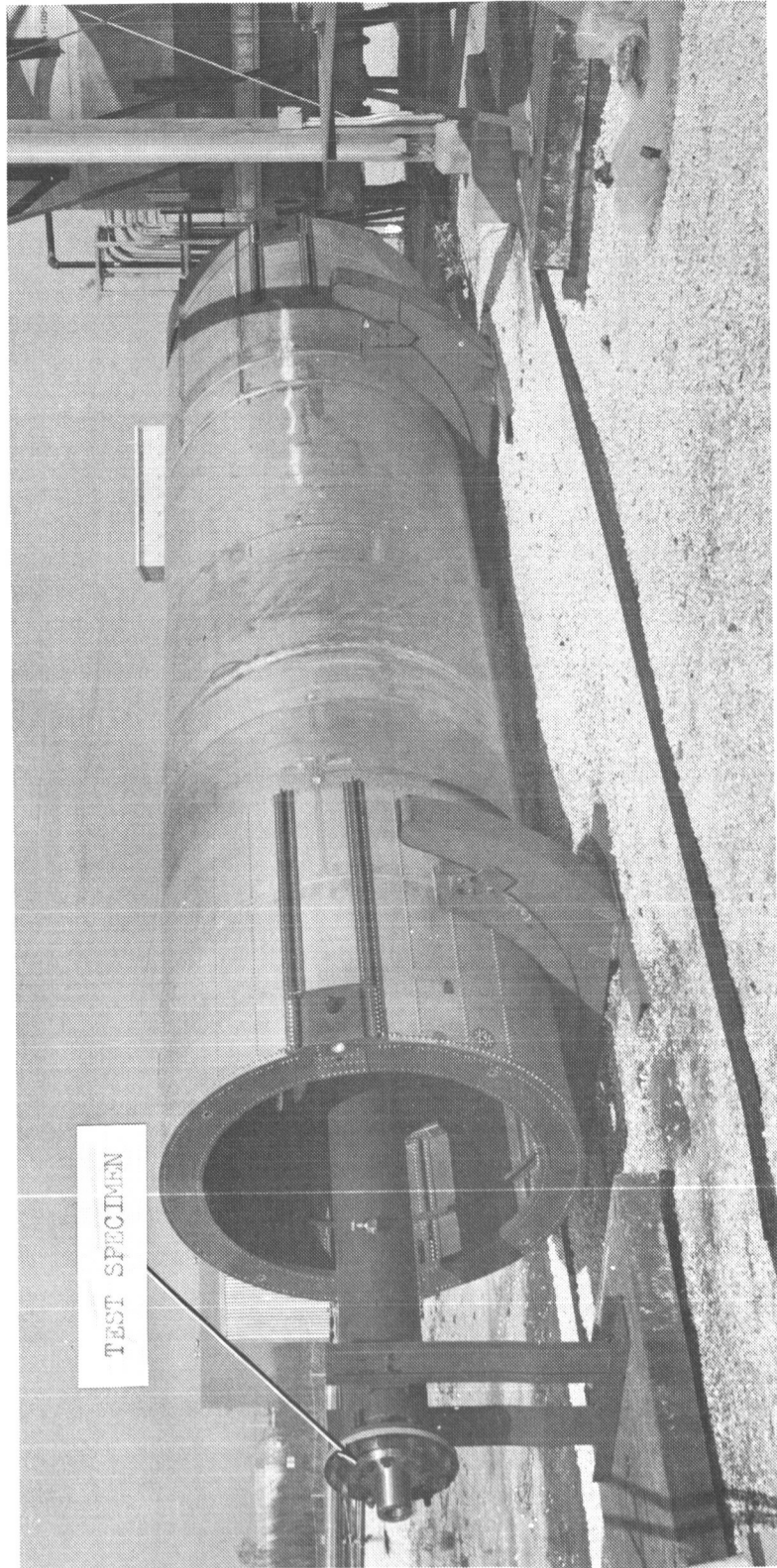


Figure 4-2. Flow Test Setup

SECTION V  
TEMPERATURE SHOCK TEST

5.1            TEST REQUIREMENTS

- 5.1.1        The temperature of the specimen shall be stabilized at 150°F.
- 5.1.2        A functional test shall be performed on the specimen using GN<sub>2</sub> at 150°F as the medium.
- 5.1.3        The specimen shall be cooled by flowing GN<sub>2</sub> at -150°F through it. The time to chill the specimen from 150°F to -150°F shall not exceed 1 minute.
- 5.1.4        A functional test shall be performed on the specimen using GN<sub>2</sub> at -150°F as the medium.

5.2            TEST PROCEDURE

- 5.2.1        The test setup was assembled as shown in figures 5-1 and 5-2 using the equipment listed in table 5-1.
- 5.2.2        Regulator 5 was adjusted for zero outlet pressure. Hand valve 2 was opened. Pressure on gage 4 indicated approximately 3000 psig from source 1.
- 5.2.3        Hand valves 7, 8, 11, and 12 were closed. Regulator 5 was adjusted until pressure gage 6 indicated 100 psig.
- 5.2.4        Valve 11 was opened and valve 7 adjusted to allow GN<sub>2</sub> at 150°F to flow through the specimen at 5 psig maximum.
- 5.2.5        Flow was continued until the specimen mass temperature stabilized at 150°F as indicated from thermocouple 16.
- 5.2.6        A functional test was conducted using 150°F GN<sub>2</sub> as the medium.
- 5.2.7        Valve 11 was closed and valve 12 was opened.
- 5.2.8        Valve 7 was adjusted to allow -150°F GN<sub>2</sub> to flow through the specimen.
- 5.2.9        When the specimen mass temperature reached -150°F a functional test was conducted using -150°F GN<sub>2</sub> as the medium.
- 5.2.10       Cracking and reseating pressures were monitored on gage 14 during functional tests.

5.2.11 All test data were recorded.

5.3 TEST RESULTS

5.3.1 There was no difference in the cracking pressures at 150°F and -150°F.

5.3.2 Reseat pressure at 150°F averaged 0.92 psig lower than at -150°F.

5.3.3 Slight leakage continued below the reseat pressures at 150°F and -150°F.

5.3.4 Specimen mass chill time from +150°F to -150°F was approximately 4.5 minutes.

5.4 TEST DATA

Test data are presented in tables 5-2 and 5-3.

Table 5-1. Temperature Shock Test Equipment List

Item No.	Item	Manufacturer	Model/ Part No.	Serial No.	Remarks
1	GN <sub>2</sub> Supply	CCSD	N/A	N/A	3000-psig
2	Hand Valve	Combination Pump Valve Co.	380-4	N/A	$\frac{1}{2}$ inch
3	Filter	Bendix	1731260	570015	2-micron
4	Pressure Gage	Ashcroft	N/A	NASA 106-1024 -B	0 to 5000-psig +2% FS accuracy Calibration 1/7/67
5	Pressure Regulator	Tescom	26-1021 -30	1526	6000 psi in/out
6	Pressure Gage	Heise	H-45311	NASA-95 -1569-B	0 to 1500-psig +2% FS accuracy Calibration 1/16/67
7	Hand Valve	Robbins	SSKG-250 -4T	N/A	$\frac{1}{4}$ inch
8	Hand Valve	Robbins	SSKG-250 -4T	N/A	$\frac{1}{4}$ inch
9	Tube Heater	Partlow	352457	NASA 018497	100°F -1000°F
10	LN <sub>2</sub> Dewar	Hofman	N/A	20470	Liquified gas Dewar flask
11	Hand Valve	Control Compon- ents, Inc.	ES608- P-P	N/A	$\frac{1}{2}$ inch
12	Hand Valve	Vacco Valve	NV-6P- 403-2G	5116-5	$\frac{1}{2}$ inch
13	Ullage Tank	CCSD	N/A	N/A	N/A
14	Pressure Gage	Wallace & Tiernan	FA-145	HHL0977	0-30 in. Hg +0.5% FS accuracy Calibration 2/1/67
15	Thermocouple	Honeywell	N/A	N/A	Copper Constantan

Table 5-1. Temperature Shock Test Equipment List (Continued)

Item No.	Item	Manufacturer	Model/ Part No.	Serial No.	Remarks
16	Thermocouple	Honeywell	N/A	N/A	Copper Constantan
17	Temperature Readout	West Instrument	IE-533	65090909	-325°F to 350°F
18	Test Specimen	Ladewig Valve	660-F	114650	6" relief
19	Environmental Enclosure	CCSD	N/A	N/A	N/A

Table 5-2. +150°F Functional Test Data

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75M12930 LRV-6

Date February 28, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.6	1.47	Slight leakage continued below reseat pressure
2	2.63	1.37	
3	2.65	1.52	
4	2.60	1.72	
5	2.64	1.23	
6	2.63	1.28	
7	2.63	1.72	
8	2.65	1.81	
9	2.65	1.82	
10	2.64	1.81	



Table 5-3. -150°F Functional Test Data

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75M12930 IRV-6

Date February 28, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.65	2.55	Slight leakage continued below reseat pressure
2	2.68	2.50	
3	2.65	2.49	
4	2.66	2.48	
5	2.66	2.48	
6	2.68	2.49	
7	2.67	2.48	
8	2.68	2.48	
9	2.66	2.47	
10	2.67	2.50	

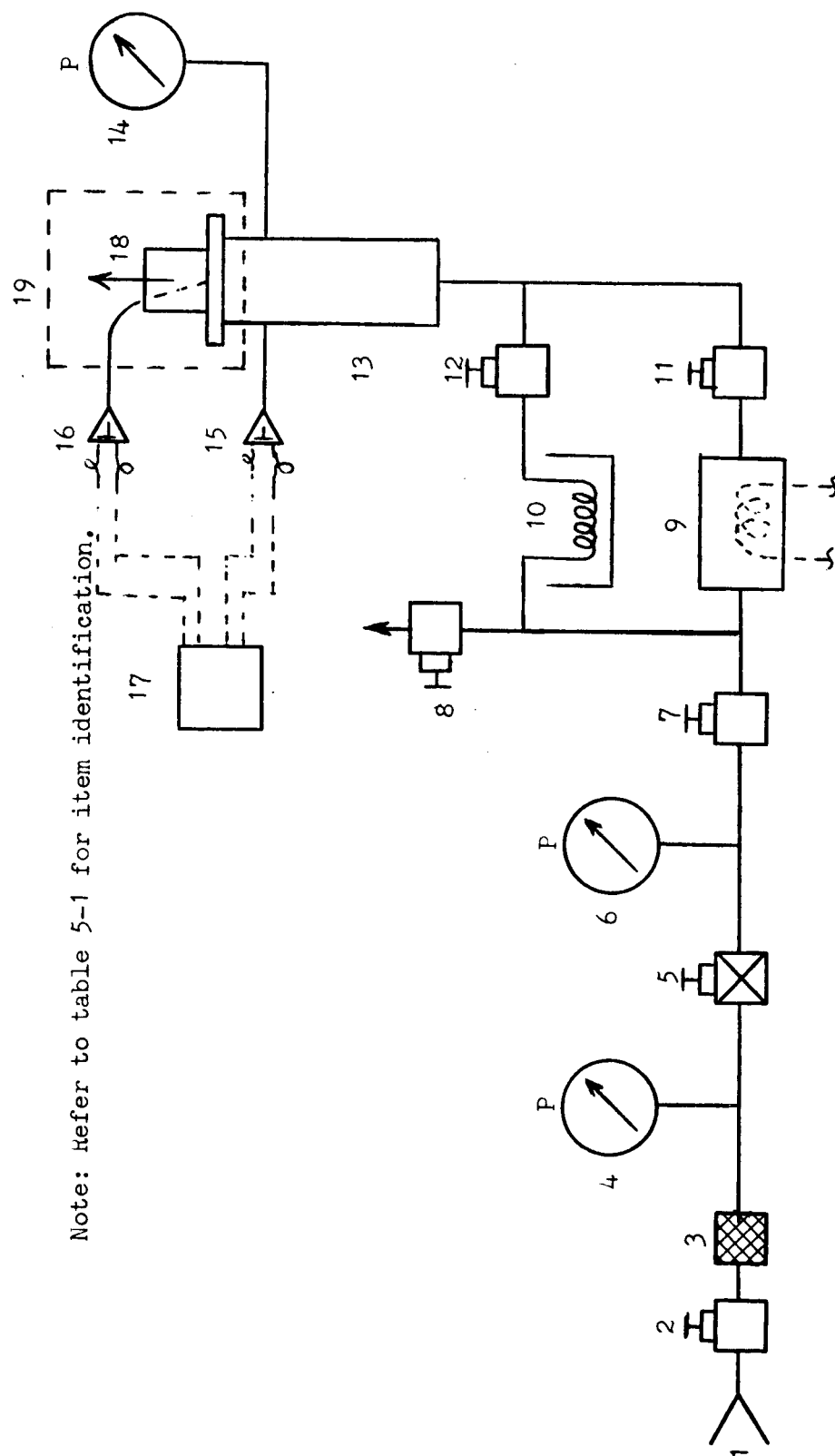


Figure 5-1. Temperature Shock Test Schematic

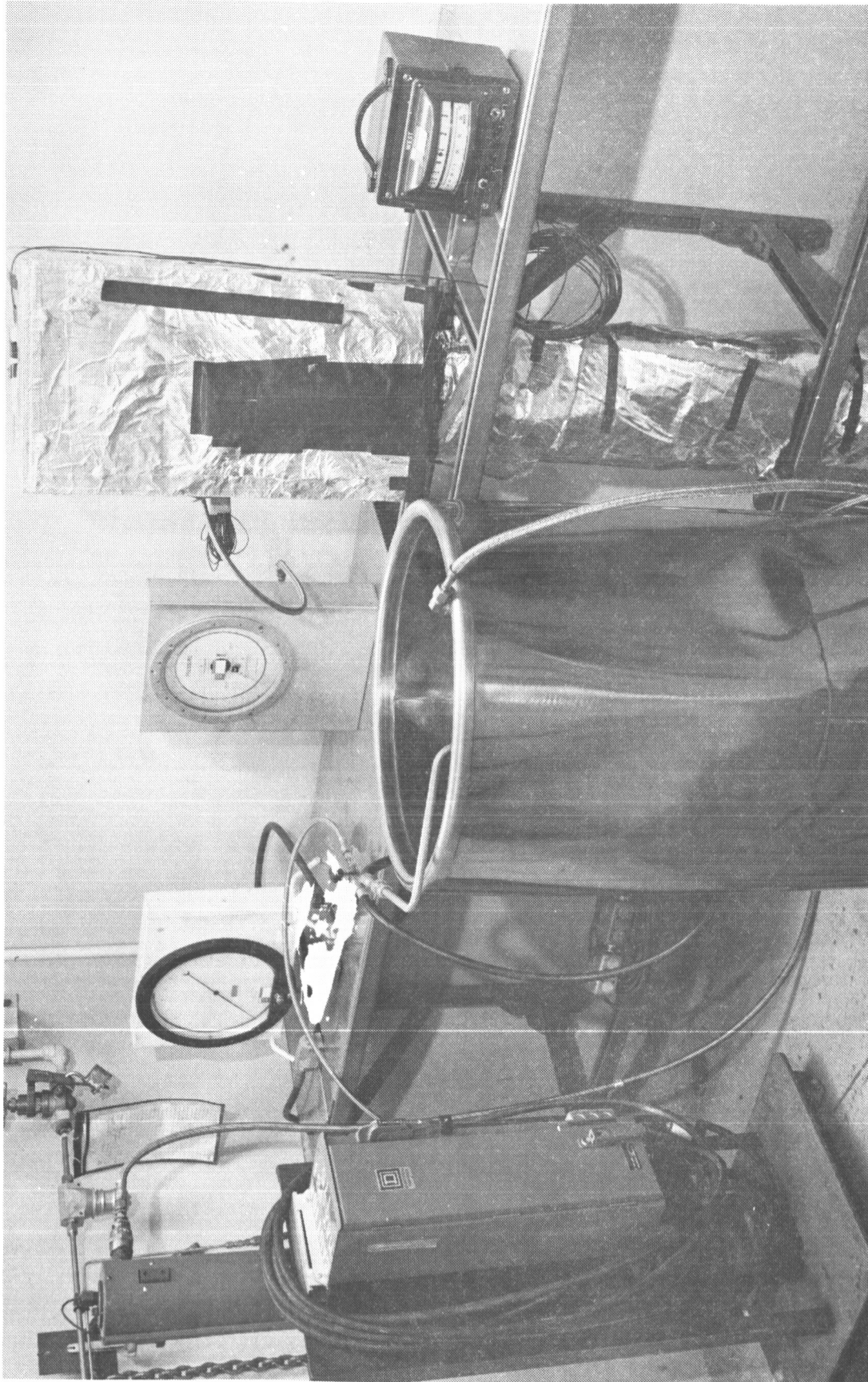


Figure 5-2. Temperature Shock Test Setup

## SECTION VI

### CYCLE TEST

#### 6.1 TEST REQUIREMENTS

- 6.1.1 The specimen shall be subjected to a cycle test of 1000 cycles.
- 6.1.2 Each cycle shall consist of pressurizing the test specimen with  $\text{GN}_2$  from zero to 5 psig and then relieving the pressure to zero psig.
- 6.1.3 A functional test, as specified in Section III, shall be performed following the completion of 100, 500 and 1000 cycles.

#### 6.2 TEST PROCEDURE

- 6.2.1 The test setup was assembled as shown in figures 6-1 and 6-2 using the equipment listed in table 6-1.
- 6.2.2 All hand valves were closed and regulator 5 adjusted for zero outlet pressure.
- 6.2.3 Hand valve 2 was opened. Pressure gage 4 indicated approximately 3000 psig.
- 6.2.4 Regulator 5 was adjusted to provide 500 psig on gage 6.
- 6.2.5 The timer was set to cycle at approximately 5 cycles per minute and to energize cycling solenoid valve 11.
- 6.2.6 Hand valve 8 was adjusted until a pressure of 5 psig maximum was indicated on gage 13 during the pressurization cycle. Specimen inlet pressure was reduced to zero during the vent cycle.
- 6.2.7 The specimen was subjected to 1000 cycles as indicated by timer-counter 12.
- 6.2.8 A functional test, as specified in Section III, was performed after 100, 500, and 1000 cycles.
- 6.2.9 All test data were recorded.

#### 6.3 TEST RESULTS

- 6.3.1 Pressure cycling had no effect on the specimen cracking pressure.

6.3.2        Reseat pressure changed only slightly, however, the minute scim leakage observed during previous functionals was not detected during the functionals after 100, 500, and 1000 cycles.

6.4        TEST DATA

Data taken during cycle testing are presented in tables 6-2, 6-3, and 6-4.

Table 6-1. Cycle Test Equipment List

Item No.	Item	Manufacturer	Model/ Part No.	Serial No.	Remarks
1	GN <sub>2</sub> Supply	CCSD	N/A	N/A	2000-psig
2	Hand Valve	Combination Pump Valve Co.	380-4	N/A	$\frac{1}{2}$ inch
3	Filter	Bendix	1731260	570015	2 micron
4	Pressure Gage	Ashcroft	N/A	NASA-106 -1024-B	0 to 5000-psig +2% FS accuracy Calibration 1/7/67
5	Pressure Regulator	Tescom	26-1021- 30	1526	6000-psig in/out
6	Pressure Gage	Heise	H45311	N/A	0 to 1500-psig +2% FS accuracy Calibration 1/16/67
7	Filter	Bendix	1731260		2 micron
8	Hand Valve	Robbins	SSKG-250 -4T	N/A	$\frac{1}{4}$ inch
9	Pressure Gage	Heise	H34938	N/A	0 to 1000-psig +.5% FS accuracy Calibration 1/16/67
10	Ullage Tank	Bendix	19E23	N/A	1 ft <sup>3</sup> glass bottle
11	Solenoid Valve	Marotta	MV583H	913	$\frac{1}{2}$ inch, 2 way
12	Timer - Counter	G. C. Wilson & Co.	No. 1	N/A	Repeat Cycle Timer
13	Pressure Gage	Wallace & Tiernan	FA-145	HH10977	0 to 30-in. Hg +.5% FS accuracy Calibration 2/1/67
14	Test Specimen	Ladewig Valve Co.	660-F	114650	6'inch relief

Table 6-2. 100 Cycle Functional Test Data

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75ML2930 LRV-6

Date March 3, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.6	2.45	No leakage below reseat pressure
2	2.6	2.43	
3	2.65	2.50	
4	2.60	2.48	
5	2.60	2.50	
6	2.65	2.48	
7	2.65	2.50	
8	2.60	2.48	
9	2.60	2.45	
10	2.60	2.45	

Table 6-3. 500 Cycle Functional Test Data

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75ML2930 LRV-6

Date March 3, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.60	2.23	No leakage below reseat pressure
2	2.60	2.06	
3	2.60	2.11	
4	2.63	2.08	
5	2.63	2.26	
6	2.60	2.26	
7	2.62	2.23	
8	2.62	2.26	
9	2.60	2.26	
10	2.62	2.26	



Table 6-4. 1000 Cycle Functional Test Data

Relief Valve  
Ladewig Valve Co.  
P/N 660-F  
75M12930 LRV-6

Date March 6, 1967

Sample Serial No. 114650

Run	Cracking Pressure (psig)	Reseat Pressure (psig)	Remarks
1	2.60	2.31	No leakage below reseat pressure
2	2.60	2.26	
3	2.60	2.28	
4	2.60	2.28	
5	2.60	2.19	
6	2.62	2.23	
7	2.63	2.26	
8	2.60	2.23	
9	2.60	2.23	
10	2.63	2.21	

Note: Refer to table 6-1 for item identification.

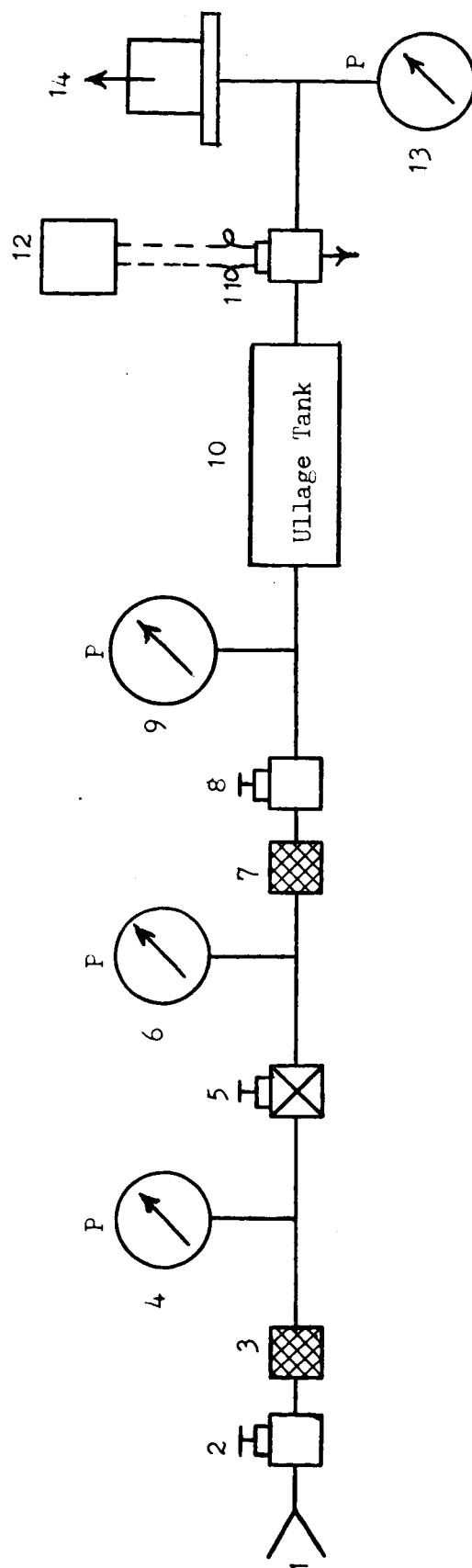


Figure 6-1. Cycle Test Schematic

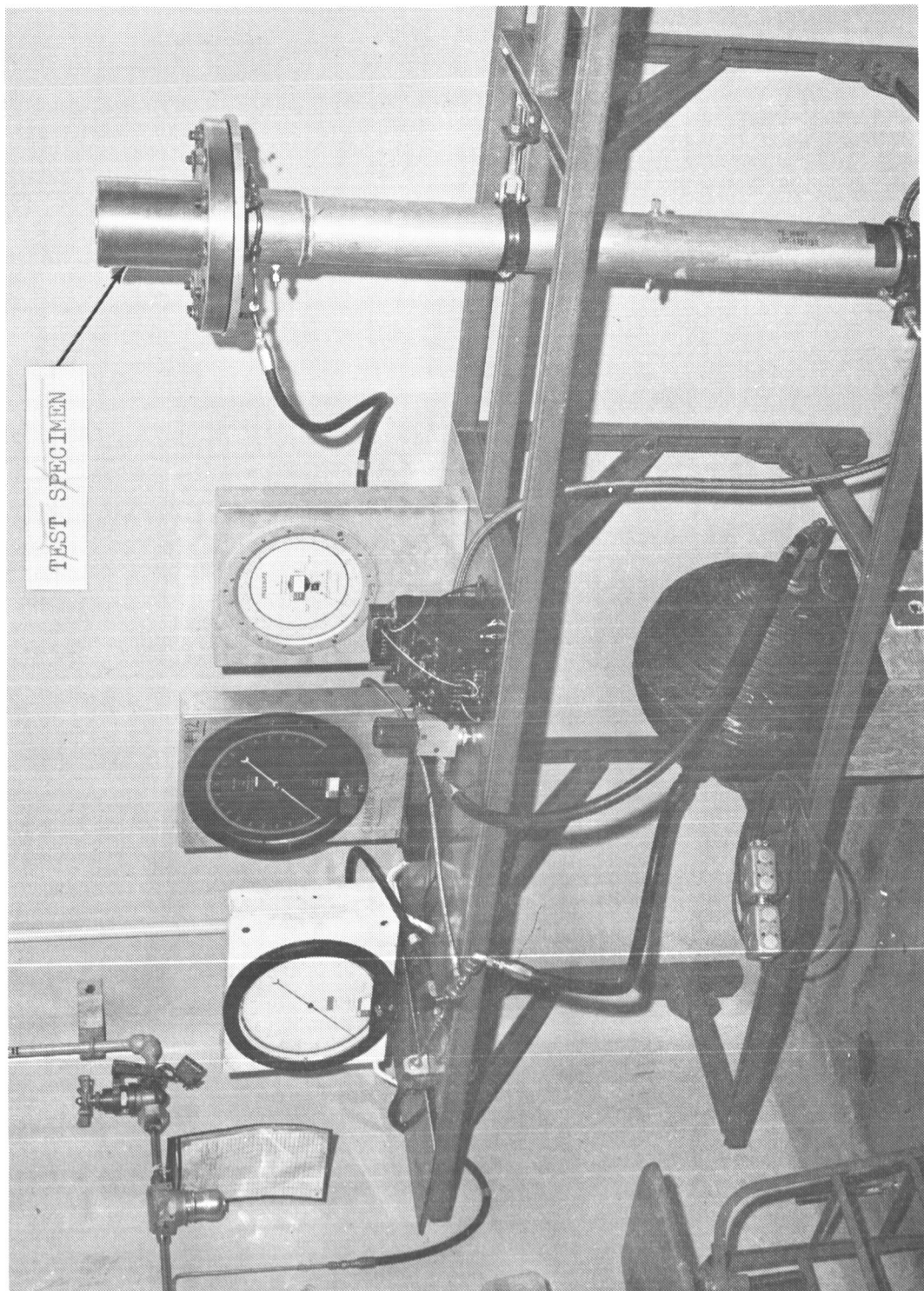


Figure 6-2. Cycle Test Setup

APPROVAL


TEST REPORT


RELIEF VALVE, 6-INCH


Ladewig Valve Company Part Number 660-F

NASA Drawing Number 75M12930 LRV-6

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